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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/037,427	01/02/2002	Guenther Heinz	B01-085A	7207
26683	7590	02/04/2009	EXAMINER	
THE GATES CORPORATION			KRUER, STEFAN	
IP LAW DEPT. 10-A3				
1551 WEWATTA STREET			ART UNIT	PAPER NUMBER
DENVER, CO 80202			3654	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/037,427	HEINZ ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Stefan Kruer	3654	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 17 November 2008.  
 2a) This action is **FINAL**.                    2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1 - 31, 33 - 38 and 43 - 45 is/are pending in the application.  
 4a) Of the above claim(s) 27 is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_\_ is/are allowed.  
 6) Claim(s) 1-26, 28- 31, 33 - 38 and 43 - 45 is/are rejected.  
 7) Claim(s) \_\_\_\_\_ is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on 05 March 2002 is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ .                                    |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____.   | 6) <input type="checkbox"/> Other: _____ .                        |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**Claims 1, 4, 6, 13, 16, 28, 31 and 43 - 45** are rejected under 35 U.S.C. 102(b) as being anticipated by Winninger et al (US 6,033,331) in view of Conrad (3,980,174).

Winninger et al disclose:

- an elastomeric body (21, Fig. 1) having a width w and a thickness t and having a pulley-engaging surface;
- the elastomeric body having an aspect ratio w/t that is greater than 1;
- a tensile cord (20) contained within the elastomeric body and extending longitudinally;
- the pulley-engaging surface having a ribbed profile extending longitudinally along the elastomeric body (Fig. 6); and
- a ribbed profile having a rib (23) depicted as having an angle of approx. 90°;
- a plurality of ribs (23);
- a plurality of tensile cords (20);
- at least one pulley (61) having a ribbed profile (62) engaged with the pulley engaging surface;
- wherein the rib angle is depicted in the range of approximately 60° to 120°;

however, though Winninger et al depict their rib having an angle of approximately 90°, Winninger et al are otherwise silent with respect to an angle of their rib while referencing norms and dimensional designations in accordance to ISO 9981, for which a rib angle of 40° is of consideration (2<sup>nd</sup> Ed., Table 1).

Attention is directed to Conrad who teaches a of a rib (42, Fig. 2) having a 90° angle (supplement to 2 x 48, Fig. 4) for the features of maintaining belt alignment and enhancing frictional contact (Col. 2, L. 7 and Col. 3, L. 50), in keeping with the instant invention (Para. 0024 - 0026)

It would have been obvious to one having ordinary skill in the art to modify the reference of Winninger et al with the teaching of Conrad to provide a rib having a rib angle of 90° for enhanced power transfer and runnability for benefits of reduced operating costs.

**Claims 2, 5, 14, 17 and 29** are rejected under 35 U.S.C. 103(a) as being unpatentable over Winninger et al and Conrad, as applied to Claims 1, 13, 16 and 28, respectively, and in further view of Adifon et al (WO 99/43598).

**Re: Claim 2**, Winninger et al disclose their tensile cord (20) comprising non-conductive material (Col. 3, L. 49). Conrad is silent with respect to a tensile cord.

Attention is directed to Adifon et al who teach their tensile cord (726) comprising a conductive material, as inherent to fibers of "...high-carbon steel..." (Pg 7, Line 15).

It would have been obvious to one of ordinary skill in the art to modify the invention of Winninger et al and Conrad with the teaching of Adifon et al for the benefit of strength and resilience to high temperature, the latter for safety.

**Re: Claims 5 and 17**, Winninger et al and Conrad disclose their respective belt as having no end.

Attention is directed to Adifon et al who teach their belt (16) as having an end for the suspension and traction of their elevator car (12) and counterweight.

It would have been obvious to one of ordinary skill in the art to modify the invention of Winninger et al and Conrad with the teaching of Adifon et al for the benefit of utility in suspending and moving elevator components.

**Re: Claims 14 and 29**, Winninger et al are silent with respect to their tensile cord having a conductive material having a resistance and Conrad is silent with respect to a tensile cord.

Adifon et al teach their tensile cord (726) comprising a conductive material having a resistance, as inherent to fibers of "...high-carbon steel..." (Pg 7, Line 15).

It would have been obvious to one of ordinary skill in the art to modify the invention of Winninger et al and Conrad with the teaching of Adifon et al to provide tensile cords of conductive material having a resistance, wherein such cords are of metallic material whereby a resistance to high temperature (e.g. fire) maintains strength for safety.

**Claims 3, 15, 18 - 19, 21 – 22 and 30** are rejected under 35 U.S.C. 103(a) as being unpatentable over Winninger et al, Conrad and Adifon et al, as applied to Claims 2, 14 and 29, and in further view of Suhling (DE 3,934,654) and Siefert (US 3,662,596).

**Re: Claims 3, 15 and 30,** Winninger et al are silent with respect to their tensile cord having a conductive material and Conrad is silent with respect to a tensile cord.

Adifon et al teach a tensile cord comprising a conductive material having a resistance, wherein the resistance of the cord inherently varies through changes in loading, their tensile cord as such is not configured for indicating change in resistance.

Attention is directed to Suhling who teaches the incorporation of conductive tensile cords (12a – 12h, Fig. 2) in conventional flat- and toothed suspension belts (11) for the detection of breakage, whereby the integrity of the suspension belt is monitored for replacement; however, Suhling does not indicate a lifting load.

Further consideration is directed towards Siefert who teaches his apparatus for the measurement of "...tension or compression stresses in a metal tire cord embedded in rubberized material of a tire..." as a means to determine the tensile/compressive strains of "...reinforcing metal cords..." under different inflation, loading and operating conditions (Col. 1, Line 13).

It would have been obvious to one of ordinary skill in the art to modify the invention of Winninger et al, Conrad and Adifon et al with the teachings of Suhling and Siefert to provide a means to determine the lifting load of suspension belts by monitoring the tension cords for elongation in advance of failure, for purposes of maintenance, safety and optimization.

**Re: Claim 18**, Adifon et al disclose a plurality of tensile cords (726).

**Re: Claims 21 and 22**, Adifon et al disclose their cords "...formed from ... a metallic material, such as thin, high-carbon steel..."

**Claims 7 and 19** are rejected under 35 U.S.C. 103(a) as being unpatentable over Winninger et al, and Adifon et al, Suhling, Siefert, as applied to Claims 3 and 15, respectively, and in further view of White, Jr. et al (US 34,981,462).

**Re: Claims 7 and 19**, Winninger et al, Conrad, Adifon et al, Suhling and Siefert are silent with respect to a jacket on a surface opposite their pulley-engaging surface.

Attention is directed to White, Jr. et al who teach their jacket (30) on a surface opposite their pulley-engaging surface as known to the art (Col. 4, Line 20).

It would have been obvious to one of ordinary skill in the art at the time of the instant invention to modify the invention of Winninger et al, Conrad, Adifon et al, Suhling and Siefert with the teaching of White, Jr. et al to provide a jacket on a surface opposite the pulley-engaging surface as known to the art.

**Claims 8 – 10 and 20** are rejected under 35 U.S.C. 103(a) as being unpatentable over Winninger et al, Conrad, Adifon et al, Suhling and Siefert and White, Jr. et al, as applied to Claims 7 and 19, respectively, and in further view of Stork (US 3,948,113).

**Re: Claims 8 and 20**, Winninger et al, Conrad, Adifon et al, Suhling and Siefert are silent regarding a jacket and, though White, Jr. et al disclose their jacket as well known in the art, they are silent with regard to its material of construction.

Stork, however, teaches his jacket (17,18, Fig. 2 and Col. 3, line 57) comprising "...rubberized woven fabric material such as ... nylon..."

In that nylon is known to the art as an abrasion resistant material, it would have been obvious to one of ordinary skill in the art at the time of the instant invention to modify the invention of Winninger et al, Conrad, Adifon et al, Suhling, Siefert and White, Jr. et al with the teaching of Stork to form the jacket of nylon for resistance to wear.

**Re: Claims 9 and 10,** Winninger et al disclose their tensile cord (20) comprising non-metallic material (Col. 3, L. 49). Conrad is silent with respect to a tensile cord.

Attention is directed to Adifon et al who teach their cords "...formed from ... a metallic material, such as thin, high-carbon steel..." (Pg 7, Line 15) for strength and flexibility.

It would have been obvious to one of ordinary skill in the art at the time of the instant invention to modify the invention of Winninger et al and Conrad with the teaching of Adifon et al for the benefits of strength, flexibility and resilience to high temperature, the latter additionally for safety.

**Claims 11 and 23** are rejected under 35 U.S.C. 103(a) as being unpatentable over Winninger et al and Conrad, as applied to Claims 1 and 13, respectively, and in further view of Siefert.

Neither Winninger et al nor Conrad addresses a measurement of tensile cord loading.

Attention is directed to Siefert who teaches an electrical circuit (21, 22, 25, Fig. 1) connected to the tensile cord for measuring the stress-strain of metal cords, for various loading conditions. Conversely, based on the measured strains, the tensile loads can be calculated.

It would have been obvious to one of ordinary skill in the art to modify the invention of Winninger et al and Conrad with the teachings of Siefert to provide a means to determine the tensile cord load of suspension belts by measuring the stresses of said cords through electrical transducers (P/I), to provide instantaneous feedback for operational oversight and historical data.

**Claims 12 and 24** are rejected under 35 U.S.C. 103(a) as being unpatentable over Winninger et al and Conrad, as applied to Claims 1 and 13, respectively, and in further view of Suhling.

Neither Winninger et al nor Conrad addresses a measurement of tensile cord failure.

Attention is directed to Suhling who teaches his tensile cords for the detection of breakage, including his electrical circuit (Fig. 1) for detection of such failure.

It would have been obvious to one of ordinary skill in the art to modify the invention of Winninger et al and Conrad with the teaching of Suhling to provide a means to monitor the failure of tension members for safety and maintenance.

**Claims 25, 33 – 34 and 36 – 37** are rejected under 35 U.S.C. 103(a) as being unpatentable over Winninger et al and Conrad, as applied to Claims 1, 13 and 33, respectively, and in further in view of Stork.

**Re: Claims 25 and 33 – 34,** Winninger et al and Conrad are silent regarding a fiber loading of their elastomeric bodies.

Attention is directed to Stork who teaches fiber loading in his elastomeric body to resist the formation of cracks (Col. 4, Line 8).

It would have been obvious to one of ordinary skill in the art to modify the invention of Winninger et al and Conrad with the teaching of Stork to extend fibers from the pulley-engaging surface to improve resistance to wear and failure.

With respect to **Claims 36 – 37**, Stork teaches, "...rubberized woven fabric material such as cotton, polyester or nylon or combinations thereof..." (Col. 3, Line 58) that forms his "partial tension section" as a "flexible resilient material".

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention of Winninger et al and Conrad with the teaching of Stork to provide a matrix of fibers for the enhancement of tensile and torsional strength properties.

**Claim 26** is rejected under 35 U.S.C. 103(a) as being unpatentable over Winninger et al in view of Conrad and Suhling and in further view of Siefert.

Winninger et al depict their belt having ribbed profile of approximately 90° to engage a pulley having a ribbed profile to enhance harmonic filtering and thereby service life, however Winninger et al reference ISO 9981 in which a rib angle of 40° is considered. Furthermore, Winninger et al are silent regarding the detection of a tensile cord load.

Conrad teaches a rib having a 90° angle for the features of maintaining belt alignment and enhanced frictional contact.

It would have been obvious to one having ordinary skill in the art to modify the reference of Winninger et al with the teaching of Conrad to provide a rib having a rib angle of 90° for enhanced power transfer and runnability.

However, Conrad is silent with respect to a tensile cord.

Attention is directed to Suhling who teaches an electric circuit for detecting a tensile cord failure and an interface to provide an alarm signal (audible or visual) and/or to automatically shutdown a hoist motor (Col. 4, line 38). Siefert teaches further his apparatus for measuring of the stress of reinforcing cords and his electrical circuit for indicating the stress under various operating conditions.

It would have been obvious to one of ordinary skill in the art to modify the invention of Winninger et al and Conrad with the teachings of Suhling and Siefert to promote power transfer and reduce wear, thereby reduction in operating costs, as well as to promote safety.

**Claims 35 and 38** are rejected under 35 U.S.C. 103(a) as being unpatentable over Winninger et al, Conrad, Suhling and Siefert, as applied to Claim 26, and in further view of Stork.

**Re: Claim 35**, Winninger et al, Conrad, Suhling and Siefert are silent regarding a fiber loading in their elastomeric bodies.

Attention is directed to Stork who teaches such to resist the formation of cracks.

It would have been obvious to one of ordinary skill in the art to modify the invention of Winninger et al, Conrad, Suhling and Siefert with the teaching of Stork to inhibit the formation/propagation of cracks for enhanced service life and safety.

With respect to **Claim 38**, Stork teaches, "...rubberized woven fabric material such as cotton, polyester or nylon or combinations thereof..." (Col. 3, Line 58) that forms his "partial tension section" as a "flexible resilient material".

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention of Winninger et al, Conrad, Suhling and Siefert with the teaching of Stork to provide a matrix of fibers for the enhancement of tensile and torsional strength properties for enhanced performance and service life.

### ***Response to Arguments***

Applicant's arguments filed 17 November 2008 with respect to the subject matter of **Claims 1, 13, 26, 28 and 43 - 45** have been fully considered but they are not persuasive.

With respect to applicant's arguments that "Conrad simply teaches a longitudinal notch in an otherwise rectangular rib", Examiner notes that said notch is triangular wherein an angle of said rib is approximately 90° as derived from the supplementary "... angle 48 [of] approximately 45°..." as acknowledged by applicant and as reviewed above, thereby meeting the recitation "... the ribbed profile having a rib with an angle of approximately 90°" of the referenced claims.

Applicant's arguments as to the impermissibility of scaling the drawings when reviewing the disclosure of Winninger et al in view of Examiner's continual "...reliance on the reference figures to provide the claimed angle..." is moot in view of the rejection above in which Examiner noted that though Winninger et al "... depict their rib having an angle of approximately 90°, Winninger et al are otherwise silent with respect to an angle of their rib while referencing norms and dimensional designations in accordance to ISO 9981, for which a rib angle of 40° is of consideration (2<sup>nd</sup> Ed., Table 1)"

Additionally, applicant's assertion that "... in Conrad sides 42 of rib 40 are parallel and so cannot describe a rib angle", though superfluous to the rejections above, is not persuasive, in that said rib comprises two parallel sides (42) wherein each side forms an approximate 90° angle with the surface (38) of the his belt (18) as supported by his disclosure (Col. 3, L. 6 – 8).

Consequently, with respect to applicant's statements that the Examiner does not "... describe how one skilled the art would be motivated to combine the notch 48 of

Conrad with Winninger to arrive at a rib having an angle of 90°..." and "...the Examiner does not explain how the 90° notch is transformed into a triangular 90° rib":

- Winninger et al disclose their lift belt comprising an elastomeric material having a width w and a thickness t, said belt having a pulley engaging surface, said elastomeric body containing a tensile cord extending longitudinally, said surface having a ribbed profile, said ribbed profile having a rib with an angle depicted as approximately 90° yet disclosed within their specification as approximately 40°, and
- Conrad teaches their belt having a ribbed profile, wherein said ribbed profile has a rib with an angle of approximately 90°, wherein said rib extends longitudinally, "... for features of maintaining belt alignment and enhancing frictional contact (Col. 2, L. 7 and Col. 3, L. 50), in keeping with the instant invention (Para. 0024 - 0026)" as reviewed above.

Thereby providing the motivation that the applicant asserts the Examiner failed to provide.

As to an embodiment of the reference of Winninger et al as taught by Conrad, said embodiment would have the elastomeric body, tensile cord, width and thickness of the belt of Winninger et al, wherein the ribbed profile of Winninger et al would incorporate the rib of Conrad, for features and benefits as concluded, thereby providing a rib with an angle of approximately 90°.

Additionally, in view of the ribbed profile of Winninger et al and the triangular recess of the rib of Conrad, in which an angle of said recess is approximately 90°, and the teaching of Conrad with respect to a mating surface (30, Col. 3, L. 19 - 38), its angle being inferior to that of either "wedging portions" (each forming an angle 48), exposure to an engaging surface, therefore frictional loading, is optimized, "... thereby locking of the ribs 40 within the respective grooves..." for the enhancement of power transfer.

Consequently, in that Winninger et al disclose their ribs with an angle of approximately 40° and Conrad teaches their ribs with an angle of 90°, it would have been an obvious to one of ordinary skill in the art to provide the ribs of Winninger et al

with an angle of 90° of form in keeping with the disclosure of the instant invention as well as the invention as claimed.

Finally, as to improper hindsight reasoning, the prior art of record incorporate the limitations and teachings as derived from their respective disclosures that establish and support reasonable motivation(s) to combine. Additionally, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stefan Kruer whose telephone number is 571.272.5913. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter Cuomo can be reached on 571.272.6856. The fax phone number for the organization where this application or proceeding is assigned is 571.273.8300.

Art Unit: 3654

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866.217.9197 (toll-free).

/Stefan Kruer/

Examiner, Art Unit 3654

2 February 2009

/Peter M. Cuomo/

Supervisory Patent Examiner, Art Unit 3654